

What is claimed is:

1. A high density connector comprising:

5 a receptacle housing having a base wall and at least one lateral wall defining a cavity, said lateral wall being configured to nest within a plug housing;

10 a high density array of female electrical contacts arranged in said cavity, said contacts being supported in said base wall and extending unsupported above said base wall to a given height;

15 a single piece protection member arranged in said cavity adjacent said base wall, said protection member having an array of openings in which said electrical contacts extend; and

20 said protection member having a thickness selected so that said electrical contacts do not generally extend beyond an outer most surface of said protection member.

2. The high density connector as in claim 1 having from about 100 to about 400 or more openings in said array of openings, said array of openings comprising a plurality of rows and columns of said openings.

25 3. The high density connector as in claim 1 wherein said electrical contacts deflect upon insertion of a corresponding male contact of said plug housing and said openings are configured to permit full operation of said contacts including said deflection.

4. The high density connector as in claim 3 wherein said protection member comprises a plate like member which is arranged in contact with said base wall.

5. The high density connector as in claim 4 wherein at least one portion of said protection member secures said protection member within said cavity.

6. The high density connector as in claim 5 wherein said at least one portion of said protection member comprises a tab adapted to snap fit into said lateral wall of said receptacle.

7. The high density connector as in claim 1 wherein said connector is capable of operation without said protection member.

8. The high density connector as in claim 6 wherein said at least one lateral wall includes at a free edge thereof a guide surface for guiding said receptacle housing into a cavity of said plug housing.

9. The high density connector as in claim 8 further including a plug housing having a base wall and at least one lateral wall defining the cavity, said lateral wall of said plug housing being configured receive said lateral wall of said receptacle housing in a nested configuration;

a high density array of male electrical contacts arranged in said plug housing cavity, said male contacts being supported in said base wall of said plug housing and extending unsupported above said base wall to a desired height; and

wherein when said receptacle housing is nested in said plug housing said male contacts are engaged by said female contacts.

10. The high density connector as in claim 9 wherein said receptacle housing is mounted to a first circuit board and said plug housing is mounted to a second circuit board so that said connector provides a low profile electrical connection between said circuit boards.

5

11. The high density connector as in claim 9 wherein said lateral wall of said receptacle includes a plurality of projections from the outside of said wall, said projections extending transverse to a plane of said base wall of said receptacle housing; and wherein said lateral wall of said plug housing includes a corresponding plurality of slots internally of said cavity for receiving said projections.

10